CLAIMS

What is claimed is:

1. A method of monitoring power provided on multiple output channels of a switch mode power supply, comprising the steps of:

enabling at least one first output channel to provide a first signal representative of a first output;

when the level of the first signal is within a predetermined range of output levels, initiating a first time delay;

enabling at least one second output channel to provide a second signal representative of a second output;

in the event the second channel is enabled before the expiration of the first time delay, initiating a second time delay when the level of the second signal is within the predetermined range of output levels, and asserting a single status signal when the second time delay expires to indicate that the power provided on the first and second channels is good; and

in the event at least one of the first and second signal levels is no longer within the predetermined range of output levels, de-asserting the single status signal to indicate that the power provided on at least one of the channels is no longer good.

2. The method of claim 1 further including the steps of disabling at least one of the output channels by a user

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of the switch mode power supply, and in the event at least one of the output channels remains enabled, ignoring the disabled output channel and asserting the single status signal to indicate that the power provided on the enabled output channel is good.

3. The method of claim 1 further including the step of detecting at least one fault condition while at least one of the output channels is enabled and de-asserting the single status signal to indicate the presence of the fault condition.

4. The method of claim 3 wherein the fault condition comprises an input under-voltage lock-out condition.

5. The method of claim 1 further including the step of initiating a first soft-start procedure on the first output channel after the first channel is enabled.

6. The method of claim 1 further including the step of asserting the single status signal when the first time delay expires to indicate that the power provided on the first channel is good.

7. The method of claim 1 further including the step of initiating a second soft-start procedure on the second output channel after the second channel is enabled.

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8. The method of claim 7 further including the step of, in the event the second channel is enabled after the expiration of the first time delay, ignoring the second channel until after the second soft-start procedure finishes and asserting the single status signal to indicate that the power provided on at least the first channel is good.

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